7.2. DILLINGHAM MILITARY RESERVATION (DMR)

7.2.1. General Description.

a. Location and Size. Dillingham Military Reservation (DMR) is located on the northwestern tip of Oahu, on the north shore just east of Kaena Point. DMR is located approximately 4 miles west of the town of Wailua. Sole access is via Farrington Highway. The installation is bounded on the north by the Pacific Ocean, on the east by agricultural land, on the south by the northeastern slopes of the Waianae Mountains, and on the west by an abandoned quarry. DMR is comprised of 269 hectares (665 acres), of which 31 hectares (78 acres) are ceded, 12 hectares (30 acres) are easement, 223 hectares (550 acres) are fee simple, and 3 hectares (7 acres) are by license. Portions of the reservation, including the runway and parking area, have been leased to the Hawaiian Department of Transportation (DOT) since 1983 for civilian light aircraft operations and support. The 35 hectares (87 acres) providing for joint civilian and military use as an airfield are in the process of being conveyed to the state of Hawaii.

b. Military Land Use. Approximately 143 ha (354 acres) are suitable for maneuver and field training, 43 ha (107 acres) are developed within the cantonment area, and the remaining 82 ha (203 acres) are located on steep slopes of the Waianae Mountains. Ammunition is restricted to the use of blanks and is prohibited on the runway. Non-aerial smoke is allowed in designated areas, but is prohibited on the runway. Maneuver training is not permitted on the portion of the airfield that is leased to the state of Hawaii unless prior state approval is obtained. There are no live-fire activities, designated impact areas, or associated surface danger zones on DMR.

c. Training Capabilities. DMR is used for small unit (platoon and squad) maneuvers and combat support operations. DMR supports field training for headquarters and service support units. Specific training includes Command Post Exercise operations, Emergency Deployment Readiness Exercise support operations, limited maneuver training, airborne operations including equipment and personnel parachute operations, lodgment support operations, and night vision goggle training for helicopter pilots. Platoon-level Army Training Evaluation Program missions are supported at DMR.

d. Climate.

(1) Rainfall. The average annual rainfall ranges from 51 to 76cm (20 to 30 inches). The monthly average rainfall ranges from 2.5cm (1.0 inch) in the summer to 12.7cm (5.0 inches) in the winter.

(2) Temperature. The average high temperature, as measured in Haleiwa, is 83 degrees Fahrenheit.

(3) Relative Humidity. No records exist from which to determine RH.

(4) Wind. Prevailing winds are east or northeasterly trade winds from 4 to 24 mph in the warm summer months, and light south to southwesterly winds prevail in the wet winter months.

e. Topography. DMR is located on the Waialua Plain and abuts the coast to the north and steep sloping cliffs to the south. The elevation of DMR ranges from sea level along the northern coastal boundary to 809m (2000 ft) in the southern ridgeline areas, but the floor of the airfield is

4 to 48.5m (10 to 120 ft) in elevation. The shoreline topography in the north contains reefs with sand pockets and channels.

7.2.2. Vegetation Fuels Classification. The wildland fire fuel types found at DMR have been categorized into six classes (Figure 2 and Table 7.2.1). These classes were derived from the National Forest Fire Laboratory (NFFL) fuel behavior models as defined by Anderson (1982). For a full description of Oahu fuel types and their derivation see Section 3.5.

Table 7.2.1
Fuel Types at DMR

Fuel Type	*Fuel Model*	*Vegetation Classifications Included (Genus only)*
Short Alien Grassland	NFFL 2	*Andropogon*
Tall Alien Grassland	Guinea Grass Custom	*Leucaena/Panicum, Melinis/Panicum, Panicum*
Eucalyptus Forest	NFFL 10	*Eucalyptus, Melaleuca*
Ironwood Forest	NFFL 9	*Casuarina*
Mixed Forest	NFFL 8	*Metrosideros/Acacia koa/Dicranopteris*
Developed/Denuded	None	*Agriculture, Urban Development, Bog, Open Water, Roads*

7.2.3. Fire History for DMR.

There are records for only two fires at DMR since 1996. Both fires occurred in training area P-1. They burned a total of 2.5 hectares (6 acres) and were both caused by pyrotechnics. The paucity of data precludes analysis.

7.2.4. Resource Protection.

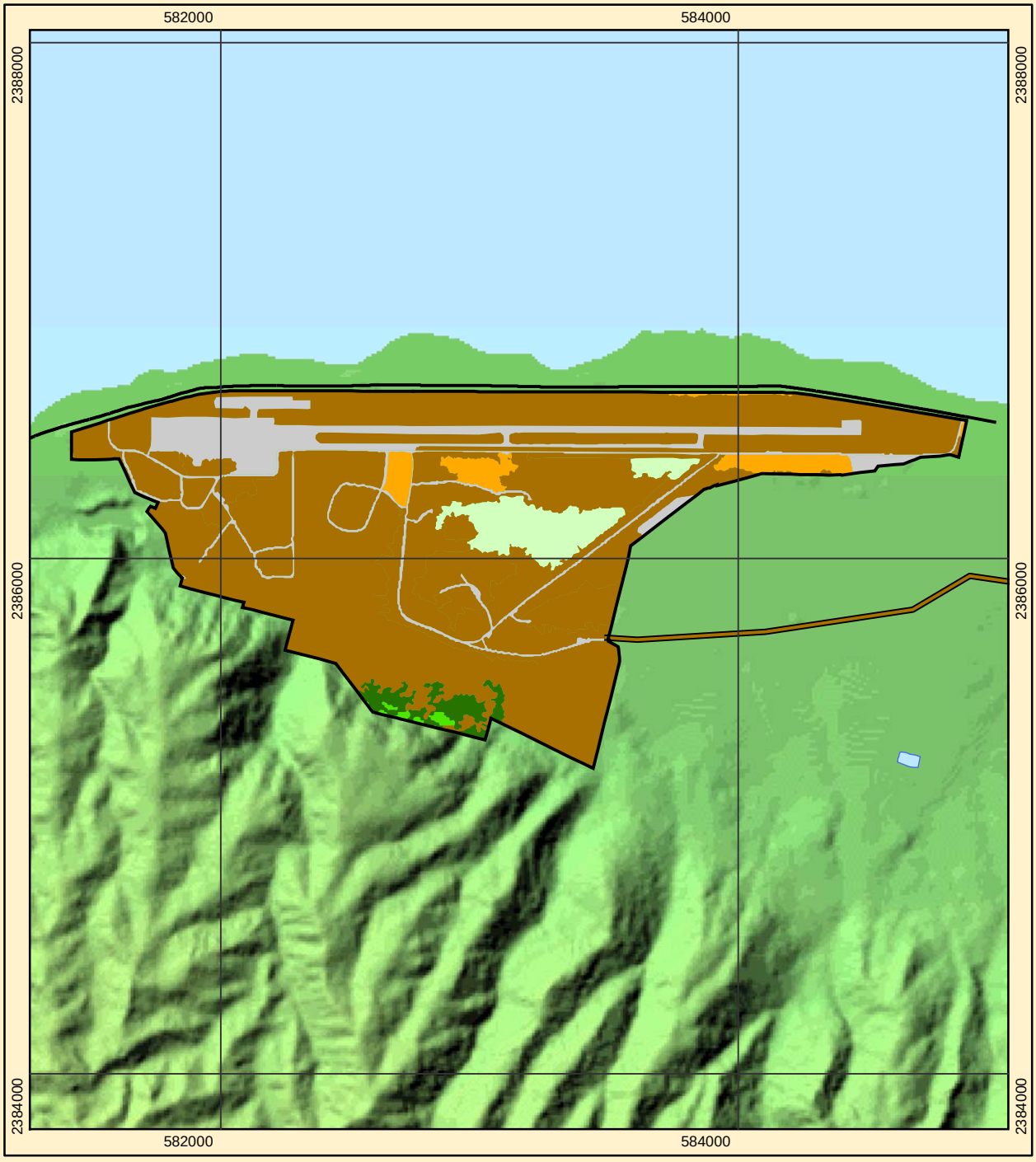
a. Biological Sensitive Areas (BSA). The predominant vegetation at DMR consists of Guinea grass (*Panicum maximum*), lantana (*Lantana camara*), koa haole (*Leucaena leucocephala*), klu (*Acacia farnesiana*), panni (*Opuntia ficus-indica*), ‘ilima (*Sida fallax*), and Natal redtop grass (*Rhynchetytrum repens*). Stands of native forest and shrubland vegetation occur on the cliffs and talus slopes in the southwestern area. Two native natural communities have been identified at Dillingham Airfield, including the cliff ecological zone that is considered rare and globally imperiled. BSA-1 and BSA-3 areas have been delineated at DMR to assist in setting resource management priorities. They are located in a steep cliff area along the central southern boundary of the installation (See Figure DMR-2 in the Appendix 1, DMR SOP).

b. Protected Species. There are no federally protected species within DMR[1].

[1] Biological Assessment for Endangered Species Act, Section 7 Consultation on Routine Military Training and Transformation of the Second Brigade to a Stryker Brigade Combat Team, 25th Infantry Division (Light), U.S. Army Hawaii. Various Sites, Island of Oahu. 21 March, 2003.

Dillingham Military Reservation
Fuels

Figure 2



1:24,000

0 500 1,000 Meters

0 0.5 1 Mile

Legend

Fuels
- Christmas Berry Shrublands
- Developed/Denuded
- Eucalyptus Forest
- Ironwood Forest
- Mixed Forest
- Tall Alien Grassland

- Installation Boundary
- Surface Water Body
- Primary Roads
- Military Vehicle Trail

Data Source: Center for Environmental Management of Military Lands 2003
IKONOS 4 meter Multispectral Imagery

c. Cultural Resources. Archaeological work within DMR boundaries has been limited, although 16 cultural resource sites have been surveyed. There is also a high potential for subsurface sites.

(1) There is an extensive complex of agricultural and occupation features in the rocky sloping area between the airfield and the cliffs. Pre- and post-contact cultural features include platforms, boulder alignments, stone piles, walls, a ditch, and concrete foundations. Three heiau temples, two fishing shrines, and "hidden waters" associated with Hawaiian legend have been identified. The coastal dune areas were used for burial during the pre-contact period. There are also World War II era buildings that have not been inventoried.

(2) There is a high likelihood that areas of DMR with Jaucas Sand contain human remains. Based on cultural deposits observed in the cut bank of Polipoli River, there is moderate potential for subsurface cultural resources. The southern area of the training area has remained relatively intact and therefore has a high probability for cultural resources. An archaeological management area has been delineated along the central southern boundary of the installation.

(3) Pre-contact habitation or agricultural deposits both on and below the surface may qualify under Criterion D of the NHPA as resources that "have yielded, or may be likely to yield, information important in prehistory or history." If human burials exist within sand deposits at DMR, they would be considered significant and eligible for inclusion in the NRHP as "properties of traditional religious and cultural importance."

(4) Finally, historic buildings associated with World War II at DMR may be considered significant under Criterion A as resources that "are associated with events that have made a significant contribution to the broad patterns of our history."

d. Wildfire Prevention Analysis

(1) Five wildfire units have been designated based on the location of existing roads. Each unit was assigned an ignition potential, hazard, and value based upon the best currently available information (see Section 4.2.6 for further information on wildfire prevention analyses). The resulting Pre-Suppression Priority map (Figure 3) shows that the central area of DMR, known as Training Area P-1 is at highest risk.

Unit A - Dillingham Airstrip
- Ignition - Low — Some military activity, no live-fire
- Hazard - Low — Heavily managed fuels, excellent access, many roads
- Value - Low — No federally listed species

Unit B - P-1
- Ignition - High — Higher level of military activity, pyrotechnics authorized
- Hazard - High — Heavy grass and shrub fuels
- Value - Moderate — Several federally listed birds, which use the site occasionally but have not been noted in 15 to 20 years

Unit C - P-2 and P-3
- Ignition - High — Significant military training, pyrotechnics authorized (once the second firebreak is completed)
- Hazard - High — Heavy grass and shrub fuels, little to no access
- Value - Low — No federally listed species

Unit D - Cantonment
- Ignition - Low — Significant military activity, but no training and therefore few ignition sources
- Hazard - Low — Heavily managed fuels, many roads
- Value - Low — No federally listed species

Unit E - Outside Firebreak
- Ignition - Low — Some military training, but no ignition sources allowed
- Hazard - High — Heavy flammable fuels
- Value - Moderate — One federally listed species

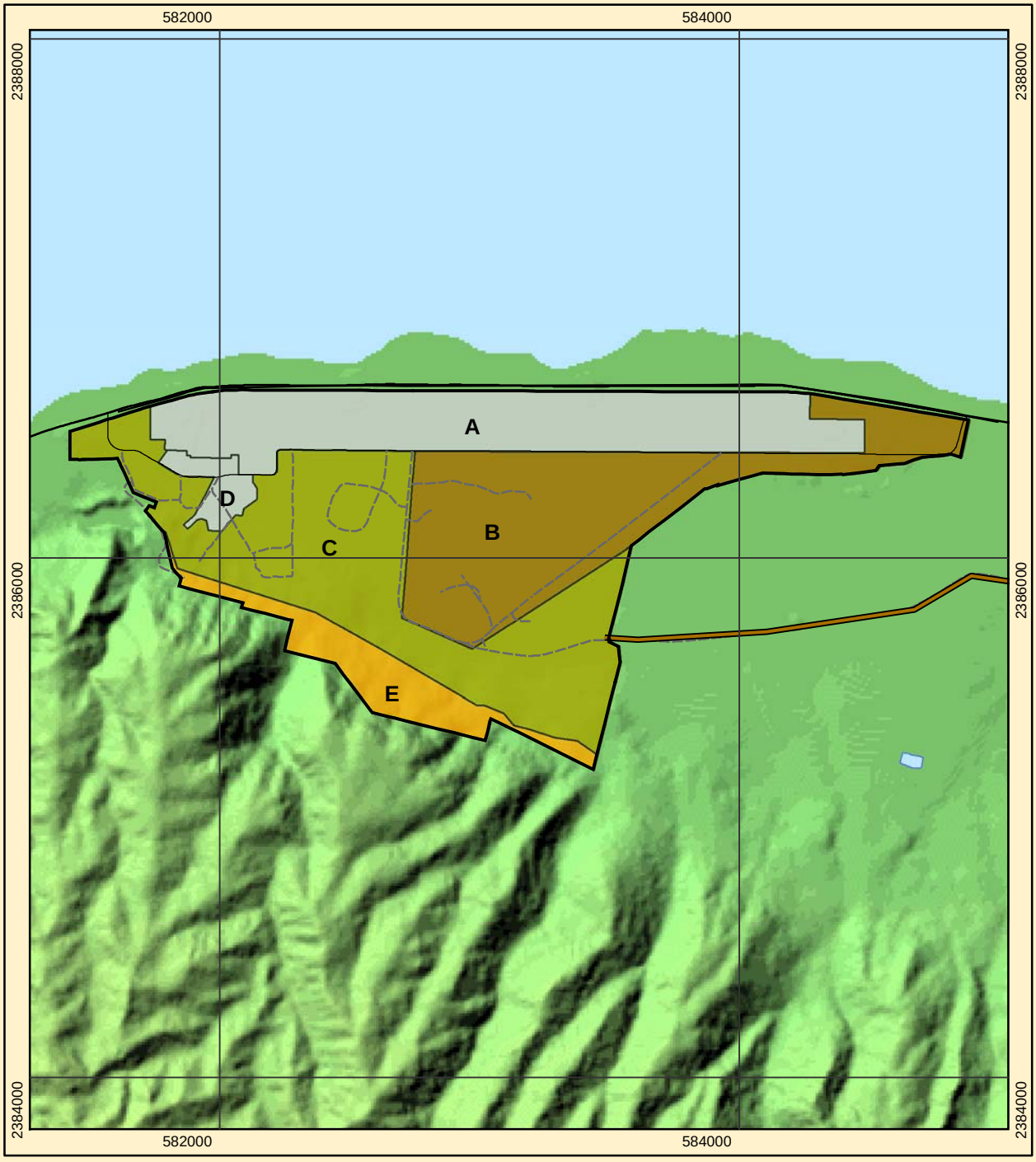
(2) By assigning values of 0, 1, and 2 to the low, moderate, and high designations respectively, and adding the values for ignition potential, hazard, and value, a priority level for each area has been determined:

Table 7.2.2
DMR Pre-Suppression Priority

Map Label	*Location*	*Pre-Suppression Priority*
Unit B	P-1	5
Unit C	P-2 and P-3	4
Unit E	Outside Firebreak	3
Unit D	Cantonment	2
Unit A	Dillingham Airstrip	0

Dillingham Military Reservation
Pre-Suppression Priority

Figure 3



N

1:24,000

0 500 1,000 Meters

0 0.5 1 Mile

Data Source: Center for Environmental Management of Military Lands 2003

Legend

Pre-Suppression Priority
- None
- Low
- Moderate
- High
- Very High

Installation Boundary

Surface Water Body

Roads
- Primary
- Secondary
- Unimproved
- Military Vehicle Trail

7.2.5. Fire Protection.

a. Firebreak System.

(1) There are no existing firebreaks at DMR, though there are a number of existing roads that will serve as firebreaks during fire suppression, and two firebreaks are planned for the near future. Standards for firebreaks are listed in Section 4.3.

(2) Two firebreaks are scheduled for construction at DMR (Figure 4).

a. The first to be constructed will be completed in 2005. It will follow existing roads, though some will have to be improved considerably. The firebreak will start on the east side of DMR, continue across the southernmost taxiway, continue west for approximately 1/2 km, and then turn north and continue to the Dillingham airstrip.

b. The second firebreak will be constructed in 2006. It will separate the majority of DMR from the hills to the south. This break will start in the same location on the east side of the installation but will first run south along the eastern installation border. It will turn to the west at the base of the mountains and follow contours until it meets an existing powerline corridor. It will follow this corridor to the western boundary where it will turn north until it meets the Dillingham airstrip.

c. Training will be allowed outside of the firebreaks, but will be limited to no ignition sources of any kind. Pyrotechnics, blanks, smoking, and cooking/warming fires are not allowed anywhere outside of the second firebreak at any time. Until the second firebreak is completed, this restriction will apply to the first firebreak. Until the first firebreak is completed, this restriction will apply to any area outside of P-1 and the Dillingham airstrip.

b. Fuels Modification. Several fuels management projects will be considered at DMR.

(1) Fuels along the Dillingham Military Vehicle Trail will be kept at less than 20% crown cover as ocularly estimated. Because there is little vegetation along the trail due to extensive agriculture, maintenance of this corridor should be minimal.

a. The trail will be monitored once annually in the spring to determine the need for fuels management. Any area with fine fuels and/or shrub cover greater than 20% crown cover will be noted and managed.

b. Locations that are overgrown will be managed either through the application of herbicide or by cutting the grass or shrubs until they are in compliance.

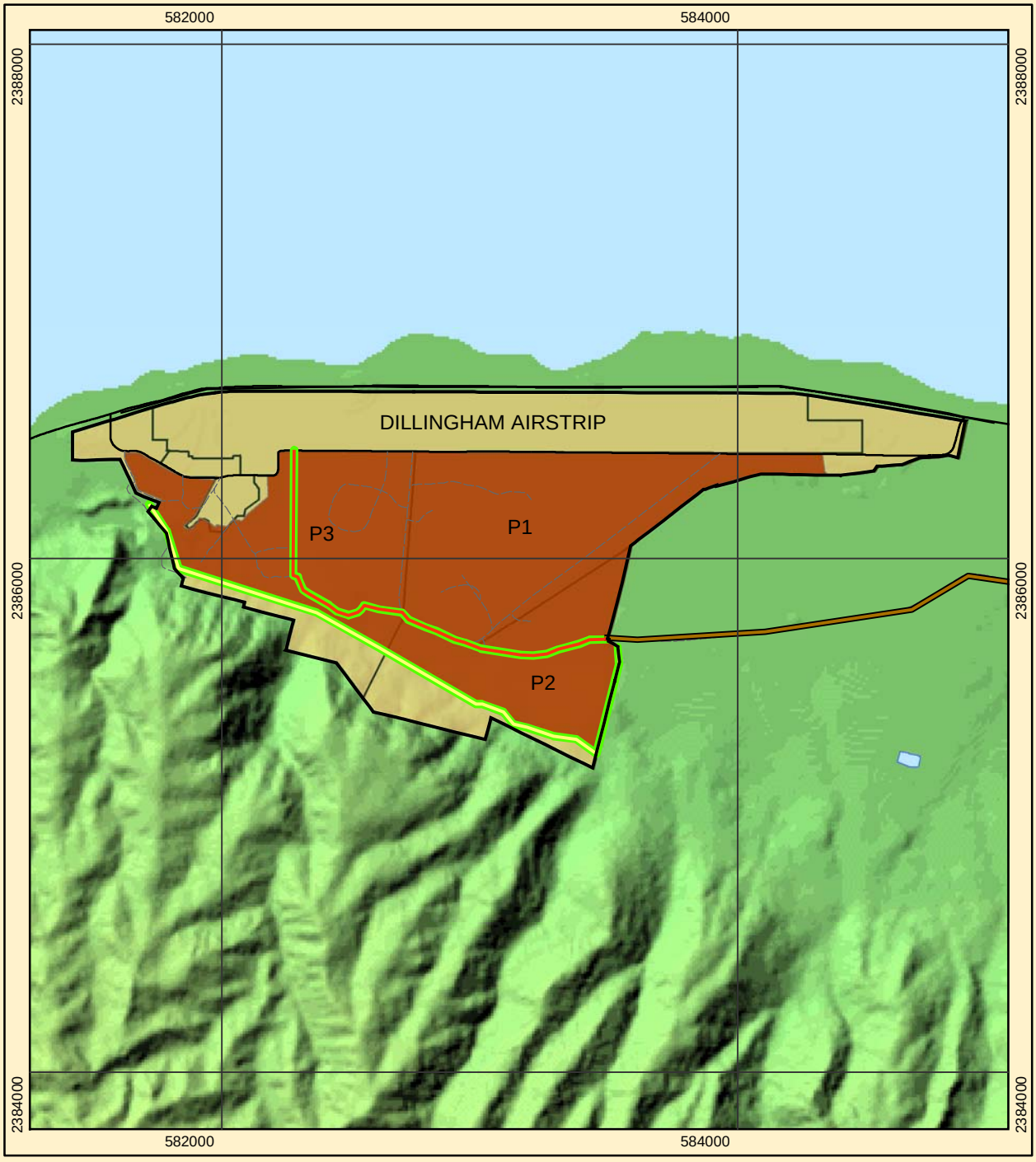
(2) Fuels contained by the finished firebreaks at DMR may be considered for prescribed burning. This will be dependent on financial and resource availability and the discretion of the Wildland Fire Program Manager.

a. Any prescribed burning that is planned will follow all guidelines in place in Section 4.4 and will require proper environmental documentation and consultation with the USFWS.

b. No prescribed burning will take place outside of completed firebreaks.

Dillingham Military Reservation
Firebreaks and Fuels Management

Figure 4



1:24,000

0 500 1,000 Meters

0 0.5 1 Mile

Data Source: Center for Environmental Management of Military Lands 2003
USARHAW IFSO

Legend

- Proposed Firebreak 1
- Proposed Firebreak 2
- Potential Prescribed Burning
- Herbicides
- Installation Boundary
- Training Areas
- Surface Water Body

Roads

- Primary
- Secondary
- Unimproved
- Military Vehicle Trail

7.2.6 Project Budget FY 03 to 05*

PROJ/FEWR NO.	PROJECT TITLE	EST COST (x $1000)	FUNDED BY	FY
TA100243J	Install New DMR RAWS Unit	**18**	DPW ENV	O4
TA100253J	Rpr/Maint & Extend Interior Firebreak Road	**125**	DPW/TCCC	O5
TA100263J	Construct New DMR Firebreak	**190**	DPW ENV	O6
	Total	**333**		

*See Annex I for the sustainment budget

Table 7.2.3
Federally Listed Endangered and Threatened Species
at Dillingham Military Reservation*

Status	Hawaiian / Common Name	Scientific Name
PLANTS:	**None**	
ANIMALS:	**None**	

*According to Biological Assessment for Endangered Species Act, Section 7 Consultation on Routine Military Training and Transformation of the Second Brigade to a Stryker Brigade Combat Team, 25th Infantry Division (Light), U.S. Army Hawaii. Various Sites, Island of Oahu. 21 March, 2003.